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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/930,990	08/17/2001	Wen-Shi Huang	0941-1282PUS1	8682

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EXAMINER
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PATEL, NIHIR B

ART UNIT	PAPER NUMBER
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3772

NOTIFICATION DATE	DELIVERY MODE
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07/22/2009

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

<b>Office Action Summary</b>	<b>Application No.</b> 09/930,990	<b>Applicant(s)</b> HUANG ET AL.	
	<b>Examiner</b> NIHIR PATEL	<b>Art Unit</b> 3772	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 04 May 2009.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 8, 10-23 and 25-27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 8, 10-23 and 25-27 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant's arguments filed on May 4<sup>th</sup>, 2009 have been fully considered but they are not persuasive. The applicant argues that Amou fails to teach an annular cavity that is defined between the first cooling fins and the second cooling fins and the blades are located in the cavity. The examiner disagrees with the applicant's argument. The area located above the decided fins and between the bordering fins is defined as the annular cavity and the blades are located in the cavity (see fig. 7). The applicant further argues that Amou also fails to teach a cover connected to the heat sink and having corners directly contacted to the first cooling fins. The motor which is also the cover is fixed to the four corners of the heat sink (see fig. 7; col. 5 lines 54-56). The applicant further argues that Amou fails to teach a centrifugal fan and the entire rotary shaft is located above the lower portion of the second cooling fins. The examiner disagrees with the applicant's argument. The definition of centrifugal is acting in a direction away from a center or axis which the fan of Amou's reference is doing therefore is defined as centrifugal fan. From figure 7 of Amou's reference it can be clearly seen that the entire rotary shaft is located above the lower portion of the second cooling fins.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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3. Claims **8, 10-23 and 25-27** are rejected under 35 U.S.C. 102(b) as being anticipated by Amou et al. (US 5,957,659).

4. **As to claim 8**, Amou teaches an apparatus that comprises a centrifugal fan (**see figure 7; col. 5 lines 35-40**) including a rotary shaft **12** (**see figure 1; col. 3 lines 35-45**), a motor **1 or 305** (**see figures 1 and 7; col. 3 lines 20-30; col. 5 lines 50-60**) and a plurality of blades **306** (**see figure 7; col. 5 lines 35-40**); a heat sink **301** (**see figure 7; col. 5 lines 25-30**), including a plurality of first cooling fins and a plurality of second cooling fins located at the same plane as the first cooling fins (**see figure 7**), wherein an annular cavity is defined between the first cooling fins and the second cooling fins, and the second cooling fins include a lower portion (**see figure 7; col. 5 lines 25-50**); and a cover **26** formed on the heat sink and the centrifugal fan (**see col. 3 lines 45-50**); wherein the motor for driving the rotary shaft is mounted below the cover and away from the hear sink (**see figures 1 and 7**), the blades are located in the cavity and there is a distance between the rotary shaft and the second cooling fins so that the entire rotary shaft is located above the lower portion of the second cooling fins, and the rotary shaft is positioned away from the lower portion of the second cooling fins (**see figures 1 and 7**).

5. **As to claim 10**, Amou teaches an apparatus wherein the cover serves an air seal to keep airtight (**see col. 3 lines 45-50**).

6. **As to claim 11**, Amou teaches an apparatus wherein the annular cavity matches the centrifugal fan (**see figures 1 and 7**).

7. **As to claim 12**, Amou teaches an apparatus wherein the cooling fins are distributed under and around a region extending from a central region of the centrifugal fan to a periphery of the centrifugal fan (**see figures 1 and 7**).

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8. **As to claim 13**, Amou teaches an apparatus wherein the heat sink is made of a material chosen from the group consisting of aluminum, aluminum alloy, copper, copper alloy and the combination thereof **(see col. 3 lines 50-55)**.

9. **As to claim 14**, Amou teaches an apparatus that comprises a heat sink including a plurality of first cooling fins and a plurality of second cooling fins located at the same plane as the first cooling fins, wherein a cavity is defined between the first cooling fins and the second cooling fins, and the second cooling fins include a lower portion **(see figures 1 and 7; col. 5 lines 25-50)**; a cover **26** connected to the heat sink and having corners directly contacted to the first cooling fins **(see figures 1 and 7; col. 3 lines 45-50)**; and a centrifugal fan **(see figure 7; col. 5 lines 35-40)** including a rotary shaft **12** **(see figure 1; col. 3 lines 35-45)**, a motor **(1 or 305** **(see figures 1 and 7; col. 3 lines 20-30; col. 5 lines 50-60)** and a plurality of blades **(306** **(see figure 7; col. 5 lines 35-40)**, wherein the motor for driving the rotary shaft is mounted below the cover and away from the heat sink **(see figures 1 and 7)**, the blades are located in the cavity, the entire rotary shaft is located above the lower portion of the second cooling fins **(see figures 1 and 7)**, and the rotary shaft is positioned toward the cover to be away from the lower portion of the second cooling fins **(see figures 1 and 7)**.

10. **As to claim 15**, Amou teaches an apparatus wherein the cover serves an air seal to keep airtight **(see col. 3 lines 45-50)**.

11. **As to claim 16**, Amou teaches an apparatus wherein the annular cavity matches the centrifugal fan **(see figures 1 and 7)**.

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12. **As to claim 17**, Amou teaches an apparatus wherein the cooling fins are distributed under and around a region extending from a central region of the centrifugal fan to a periphery of the centrifugal fan **(see figures 1 and 7)**.

13. **As to claim 18**, Amou teaches an apparatus wherein the heat sink is made of a material chosen from the group consisting of aluminum, aluminum alloy, copper, copper alloy and the combination thereof **(see col. 3 lines 50-55)**.

14. **As to claim 19**, Amou teaches an apparatus that comprises a heat sink, including a plurality of first cooling fins and a plurality of second cooling fins located at the same plane as the first cooling fins, wherein a cavity is defined between the first cooling fins and the second cooling fins, and the second cooling fins include a lower portion **(see figures 1 and 7; col. 5 lines 25-50)**; a centrifugal fan **(see figure 7; col. 5 lines 35-40)** having an axial direction and a radial direction and including a rotary shaft **12 (see figure 1; col. 3 lines 35-45)**, a motor **(1 or 305 (see figures 1 and 7; col. 3 lines 20-30; col. 5 lines 50-60))** and a plurality of blades **(306 (see figure 7; col. 5 lines 35-40))**; and a cover **26 (see figures 1 and 7; col. 3 lines 45-50)** including a plurality of inlets **16** mounted onto the heat sink and the centrifugal fan, wherein air from ambient is flowed in the axial direction of the centrifugal fan into the heat sink from the inlets of the cover **(see figures 1 and 2)**, and is flowed in the radial directions of the centrifugal fan and out of the heat sink; wherein the motor for driving the rotary shaft is mounted below the cover and away from the heat sink **(see figures 1 and 7)**, the blades are located in the cavity **(see figures 1 and 7)**, and there is a distance between the rotary shaft and the second cooling fins so that the entire rotary shaft is located above the lower portion of the second cooling fins **(see**

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**figures 1 and 7)**, and the rotary shaft is positioned away from the lower portion of the second cooling fins **(see figures 1 and 7)**.

15. **As to claim 20**, Amou teaches an apparatus wherein the cover serves an air seal to keep airtight **(see col. 3 lines 45-50)**.

16. **As to claim 21**, Amou teaches an apparatus wherein the annular cavity matches the centrifugal fan **(see figures 1 and 7)**.

17. **As to claim 22**, Amou teaches an apparatus wherein the cooling fins are distributed under and around a region extending from a central region of the centrifugal fan to a periphery of the centrifugal fan **(see figures 1 and 7)**.

18. **As to claim 23**, Amou teaches an apparatus wherein the heat sink is made of a material chosen from the group consisting of aluminum, aluminum alloy, copper, copper alloy and the combination thereof **(see col. 3 lines 50-55)**.

19. **As to claims 25, 26 and 27**, Amou teaches an apparatus wherein the motor is between the cover and the second cooling fins **(see figures 1 and 7)**.

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

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will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to NIHIR PATEL whose telephone number is (571)272-4803. The examiner can normally be reached on 7:30 to 4:30 every other Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patricia Bianco can be reached on (571) 272-4940. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Nihir Patel/  
Examiner, Art Unit 3772

/Patricia Bianco/



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Supervisory Patent Examiner, Art Unit 3772